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(54) Title: IMMUNOTHERAPY WITH *IN VITRO*-SELECTED ANTIGEN-SPECIFIC LYMPHOCYTES AFTER NON-MYELOABLATIVE LYMPHODEPLETING CHEMOTHERAPY

(57) **Abstract:** A method of promoting the regression of a cancer in a mammal comprising: (i) administering to the mammal nonmyeloablative lymphodepleting chemotherapy, and (ii) subsequently administering: (a) autologous T-cells, which have been previously isolated, selected for highly avid recognition of an antigen of the cancer, the regression of which is to be promoted, and rapidly expanded *in vitro* only once, and, either concomitantly with the autologous T-cells or subsequently to the autologous T-cells, by the same route or a different route, a T-cell growth factor that promotes the growth and activation of the autologous T-cells, or (b) autologous T-cells, which have been previously isolated, selected for highly avid recognition of an antigen of the cancer, the regression of which is to be promoted, modified to express a T-cell growth factor that promotes the growth and activation of the autologous T-cells, and rapidly expanded *in vitro* only once, whereupon the regression of the cancer in the mammal is promoted.

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